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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,694

06/20/2007

Angelo D'Arrigo

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08/18/2009

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EXAMINER

GORDON, BRYAN P

ART UNIT

PAPER NUMBER

2837

MAIL DATE

DELIVERY MODE

08/18/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/596,694	<b>Applicant(s)</b> D'ARRIGO, ANGELO	
	<b>Examiner</b> BRYAN P. GORDON	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Specification***

2. The objection to the specification has been withdrawn based upon the amendments to the specification the applicant provided on 15 May 2009.

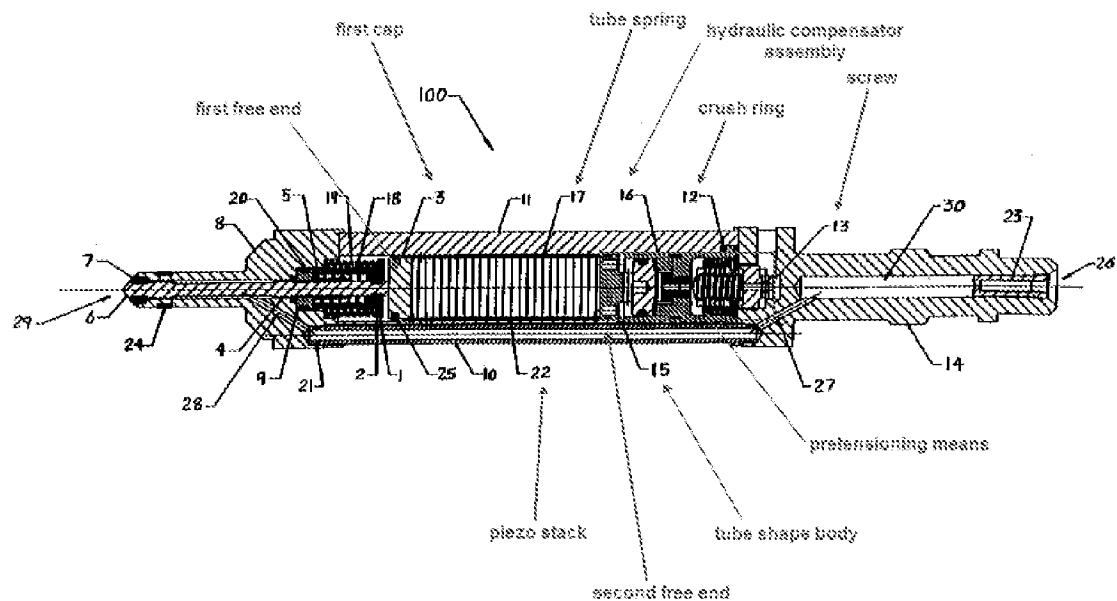
#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4, 10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Shen (US PN 6,499,471).



**Figure A**

5. Considering claims 1 and 10, Shen (Figure A) teaches a piezoelectric actuator unit comprising: a tube spring (17); a piezoelectric actuator (22), that is inserted into the tube spring, a first cap (3), that is connected to the tube spring at a first free end (See Figure A above) of the tube spring and which is adjoined by the piezoelectric actuator (22), a tube-shaped body (15) that is connected to the tube spring by joining and is arranged in the area of a second free end (see Figure A), and a means for pretensioning that is supported by the tube-shaped boy (col. 5 lines 52-54), and pretensions the piezoelectric actuator (col. 5 lines 49-57).

6. Considering claims 4 and 13, Shen (Figure A) teaches a thread in the tube-shaped body and wherein the pretensioning means is a screw (13) that is screwed into the thread.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 2-3, 5-7, 11-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen (US PN 6,499,471) and in view of Mattes (US PN 6,326,717).

10. Considering claims 2 and 11, Shen teaches the claimed invention as described above except for the body that comprises a disc-shaped part.

In the same field of endeavor, Mattes teaches a body that comprises a disc-shaped part (20) for the benefit of producing a cheaper way to manufacture the actuator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include body that comprises a disc-shaped part with Voigt's device for the benefit described above.

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11. Considering claims 3 and 12, Mattes teaches the body being a bolt-shaped body (abstract).

12. Considering claims 5 and 14, Mattes teaches the bolt-shaped body is spherically shaped on its shaft side (abstract).

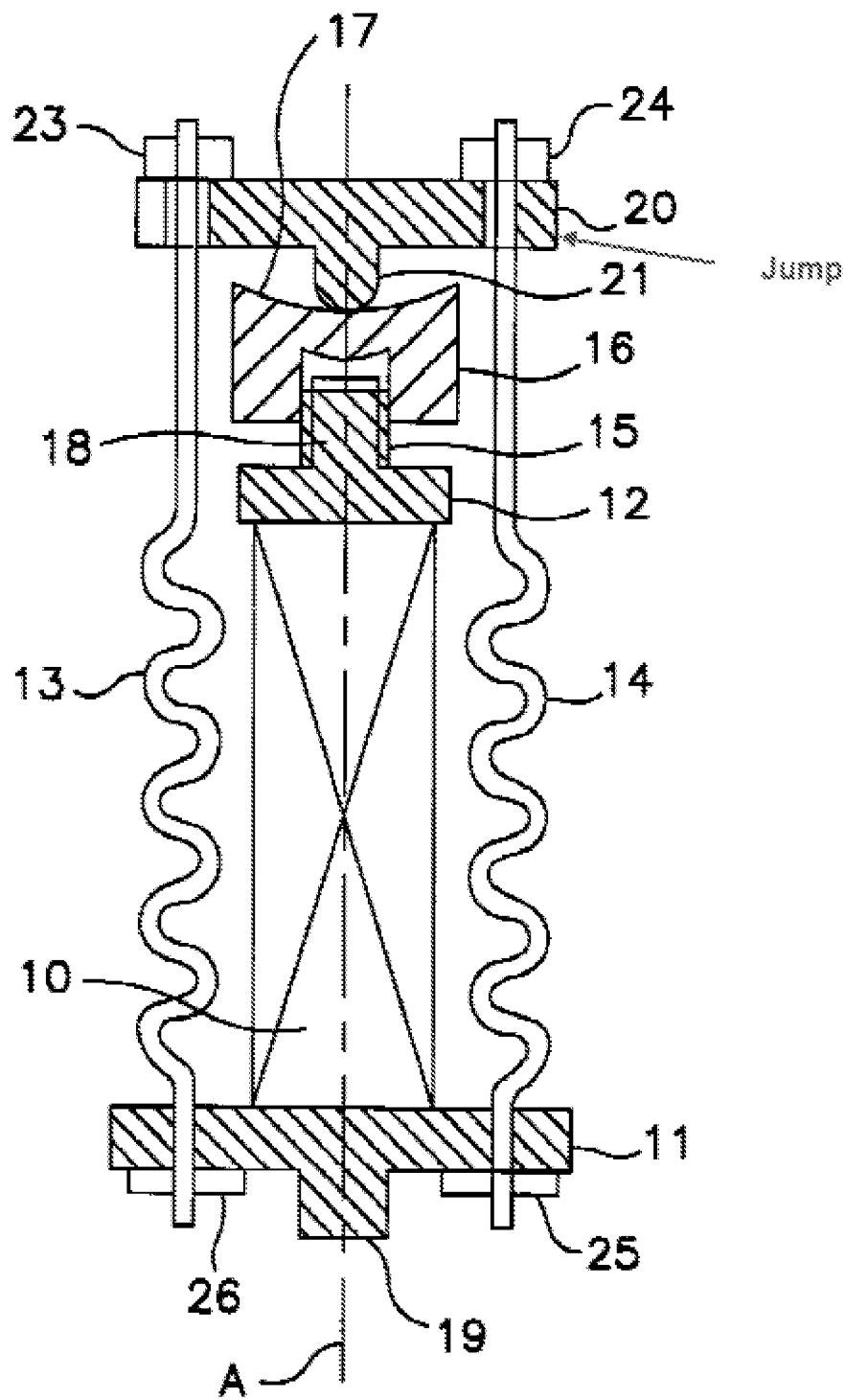


Figure B

13. Considering claims 6 and 15, Mattes (Figure 1) teaches the tube-shape body has a jump in its diameter on its outer circumference.

14. Considering claims 7 and 16, the method of forming the tube-shaped body (by welding) is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

### ***Response to Arguments***

15. Applicant's arguments filed 15 May 2009 have been fully considered but they are not persuasive. Regarding the argument that screw 13 merely adjusts the axial location of the hydraulic compensator assembly 16 and does not pretense the tube spring as noted above in Figure A the pretension means includes the screw 13, crush ring 12, hydraulic compensator 16 and the tube spring 17 which does help pretense the piezoelectric actuator. As the screw 13 is adjusted it would add stress or pressure to the tube spring via the compensator assembly and crush ring which pretense the piezoelectric actuator. Therefore, the applicant's argument is moot.

### ***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

17. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not



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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN P. GORDON whose telephone number is (571)272-5394. The examiner can normally be reached on Monday-Thursday 8:00-5:30, Friday 7:30-4:00.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Walter Benson/

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Supervisory Patent Examiner, Art Unit 2837

/Bryan P Gordon/  
Examiner, Art Unit 2834